

Charter Renewal and Annual Work Plan Updates

NW-AIRQUEST 2020 Annual Meeting
June 9 – 11, 2020

Charter Renewal

- Eliminated Associate Member Category
- Permanent Administrative Coordinator and Rotate Technical Chair
- Maintain a Live List of Voting Representatives

Annual Work Plan

Deliverables	
SFY 2021 Tasks	Time Frame
Kalman Filtering (KF) Bias corrected 24-hour PM2.5 forecast product	Summer 2020
AIRPACT6 framework.	Fall 2020
Machine Learning (ML) point forecast systems for ozone and PM2.5	Fall 2020
Evaluation of ML point forecast system for ozone and PM2.5	Fall 2020
Evaluation of Simple Air Quality Model (SAQM) forecast system for PM2.5 in Tacoma area Proposed by PSCAA	Spring 2021
Final Report	Spring 2021

Ideas for Future Consideration

- **Low-cost sensors**
 - Integrating low cost sensor measurements into the AIRPACT modeling
 - Information sharing on how you help communities who want to do their own measurements.
 - Evaluation/information sharing on low-cost sensor vs. FRM/FEM measurements
 - Repository for code or other tools for small sensor work
 - Deploy a low-cost sensor network in a specific area and use measurements to improve ML/AIRPACT modeling (WSU; Lee/Walden/Vaughn)
 - Develop standardized methods to use low-cost sensors and filtration methods that could be easily applied by community members during smoke events, building on Seattle pilot project (UW; Jaffe)
- **Historical event analysis**
 - Tools for exceptional event analyses (ozone and PM)
 - Training on analysis of historical events using available tools
 - Add Lagrangian capabilities to AIRPACT to evaluate historical events
 - Continued modeling asthma attack prevalence for specific events (WSU)
 - Deploy automated sampler measurements of wildfire smoke tracers in a specific area, using an established method (UW; Jaffe)
- **Forecasting**
 - Influence of wildfires on ozone concentrations
 - Developing a network of ceilometers to measure wildfire smoke and using the data to validate AIRPACT modeling
 - Forecasts that include both wildfire and prescribed burn impacts
 - Develop a fire weather matrix that incorporates meteorological parameters and provides a rating based on past conditions in the area that can be used for both wild and prescribed fires
 - Fire weather/wildfire forecasting tool that combines the range of output from all fire models, so we know the uncertainty
 - Develop a forecasting information/tool repository
 - Forecasting tools for local events (e.g., oil spills)
 - Case studies on ozone/temperature (using UW's mesoscale model output)
 - Land use regression modeling
 - Alternative approaches for machine learning for ozone and PM forecasts, building on past work in the Jaffe research group (UW; Jaffe)
- **Other**
 - Evaluate ultrafine particles
 - Evaluate long-range transport impact on PNW air quality